

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/048190 A1

(51) International Patent Classification⁷: **G06T 5/00,**
7/00, A61B 8/00

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(21) International Application Number:
PCT/CA2004/001970

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(22) International Filing Date:
15 November 2004 (15.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2,449,080 13 November 2003 (13.11.2003) CA

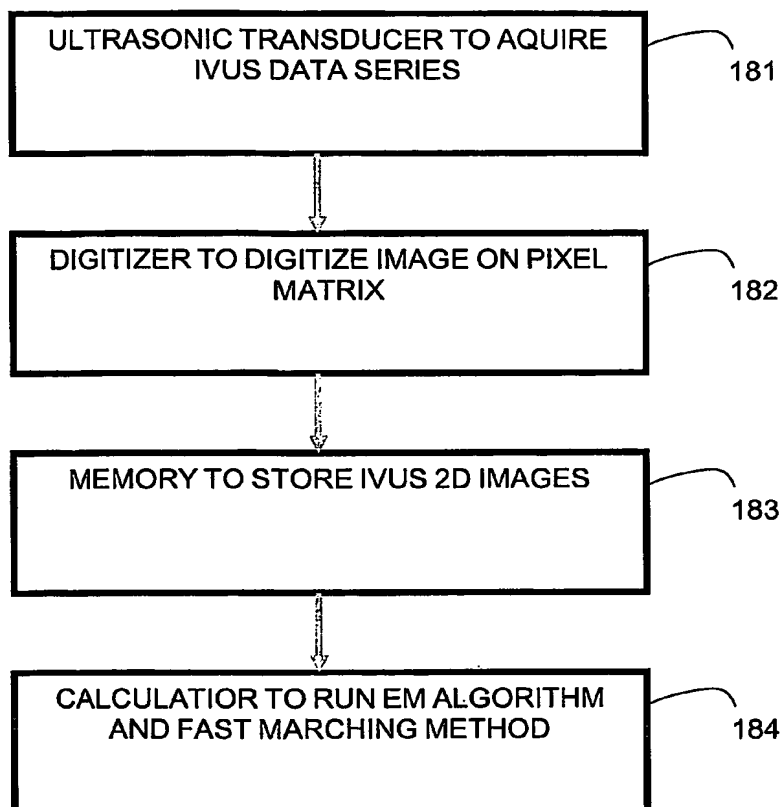
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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

[Continued on next page]

(54) Title: AUTOMATIC MULTI-DIMENSIONAL INTRAVASCULAR ULTRASOUND IMAGE SEGMENTATION METHOD



(57) Abstract: The present invention generally relates to intravascular ultrasound (IVUS) image segmentation methods, and is more specifically concerned with an intravascular ultrasound image segmentation method for characterizing blood vessel vascular layers. The proposed image segmentation method for estimating boundaries of layers in a multi-layered vessel provides image data which represent a plurality of image elements of the multi-layered vessel. The method also determines a plurality of initial interfaces corresponding to regions of the image data to segment and further concurrently propagates the initial interfaces corresponding to the regions to segment. The method thereby allows to estimate the boundaries of the layers of the multi-layered vessel by propagating the initial interfaces using a fast marching model based on a probability function which describes at least one characteristic of the image elements.



CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

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